

# Work Order ID 61337

Wednesday, August 18, 2010 3:26:43 PM



Page 1

Item ID: D3183-043

Accept



Setup Start



Revision ID:

Stop



Item Name: Bracket Assembly

Start Date: 8/19/2010 Start Qty: 8.00



Cust Item ID:

Required Date: 8/23/2010 Req'd Qty: 8.00



Customer:

Reference:

Approvals:

Process Plan: *mf*

Date: *10-8-18*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr	Revision Nbr
D3183	Rev C1

100

0.00



BAND SAW

0.00

Bandsaw

Memo

Jeaspa Bandsaw

Cut blanks: (1.500" x 2.250") 5.500" long

*LF 10/08/23*

*8 0*

110

0.00



HAAS CNC VERTICAL MACHINING #1

0.00

HAAS 1

Memo

HAAS CNC vertical machine #1

1-Machine D3183-3 as per Folio FA322 and Dwg D3183 Identify as D3183-3  
3-2-Deburr 3-Scribe batch number

*LF 10/08/23*

*BA 10/08/24*

*8 0*

120

0.00



QC2- Inspect parts off machine FAI/FAIB

0.00

QC

Memo

Quality Control

*BA 10/08/24*

*10.8.26*

*8 0*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 61337**

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Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  QC Quality Control	QC8- Inspect parts - second check  Memo	0.00  0.00				8	0		
140  Small Fab Small Fab Small Fab	Small Fab  Memo Assemble D3183-043 as per Dwg D3183.	0.00  0.00							
150  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00							

mk 10/08/30

8/30/08/31 (8)

8/30/08/31

(48)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Page 3

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Item Name: Bracket Assembly

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Cust Item ID:

Required Date: 8/23/2010 Req'd Qty: 8.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 	Identify as per dwg & Stock Location: <u>236</u>	0.00							
Packaging	Memo	0.00							
Packaging									
170 	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

10/18/31

10/08/31

mf  
10-8-31

W/O:		WORK ORDER CHANGES					
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**NOTE:** Date & initial all entries

# Picklist Print

Wednesday, August 18, 2010 3:26:42 PM

Page 1

Work Order ID: 61337

Parent Item: D3183-043

Parent Item Name: Bracket Assembly




Start Date: 8/19/2010

Required Date: 8/23/2010

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP Rev:Pick:A 04.02.18 New issue KJ/DS  
IPP Rev:B Changed Mat Size 08-06-26 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3121-21  Bolt		Manufactured	No			140	Each	43.0000	2	16		8/10/08/31	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST235		43							
				57376		1							
				59044		2							
				60493		40							
D3183-045  Bearing Assembly		Manufactured	No			100	Each	25.0000	2	16		8/10/08/31	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST236		25							
				60152		5							
				60502		20							
M174B1.500X02.250  17-4 SS Bar 1.50 X2.250		Purchased	No			140	f	22.5704	0.4583	3.859368			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT031		22.5704							
				108309		1							
				- 113568 -		21.5704							
									3.85974	8/10/08/23			

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	61337
<b>Description:</b> Bracket		<b>Part Number:</b>	D3183-3
<b>Inspection Dwg:</b> D3183	<b>Rev:</b> C1	<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
R0.190	+/-0.030	0.190	✓		Rad gage	ref.
R0.063	+/-0.010	0.063	✓		"	"
0.182	+/-0.010	0.181	✓		Vern	GA-01
0.070	+/-0.010	0.070	✓		"	"
0.100	+/-0.010	0.107	✓		"	"
Ø0.201 x 0.100	+/-0.010	Ø0.196 x 100	✓		"	"
0.182	+/-0.010	0.182	✓		"	"
5.32	+/-0.030	5.324	✓		H-G	31006
5.036	+/-0.010	5.032	✓		"	"
2.120	+/-0.010	2.120	✓		"	"
1.290	+/-0.010	1.290	✓		"	"
0.365	+/-0.010	0.366	✓		Vern	GA-01
0.218	+/-0.010	0.215	✓		"	"
1.030	+/-0.010	1.030	✓		H-G	31006
1.90	+/-0.030	1.890	✓		Vern	GA-01
1.012	+/-0.010	1.017	✓		H-G	31006
Ø0.201 x 0.100	+/-0.010	Ø0.200 x 100	✓		Vern	GA-01
0.786	+/-0.010	0.780	✓		H-G	31006
Ø0.392	+0.002/-0.000	Ø0.393	✓		Mic	GA-03
R0.19	+/-0.030	R0.190	✓		Rad gage	ref
3.954	+/-0.010	3.956	✓		H-G	31006
0.162	+/-0.010	0.160	✓		Vern	GA-01
R0.19	+/-0.030	R0.190	✓		Rad gage	ref
R0.25	+/-0.030	R0.250	✓		Rad gage	ref
4.26	+/-0.030	4.261	✓		H-G	31006
2.080	+/-0.030	2.080	✓		Vern	GA-01
1.155	+/-0.010	1.155	✓		Vern	GA-01
0.162	+/-0.010	0.154	✓		"	"
0.36	+/-0.030	0.360	✓		"	"
0.615	+/-0.010	0.617	✓		"	"
0.435	+/-0.010	0.433	✓		"	"
0.200	+/-0.010	0.200	✓		"	"
0.381	+/-0.010	0.384	✓		"	"
0.032	+/-0.010	0.031	✓		Depth gage	GA-08

<b>Measured by:</b> H.A	<b>Audited by:</b> [Signature]	<b>Prototype Approval:</b>	N/A
<b>Date:</b> 10/08/24	<b>Date:</b> 10/08/30	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	03.11.12	New Issue P/O D3183-043	KJ/RF	
B	04.03.15	Changes as per revision C	KJ/JLM/RF	
C	06.03.09	Dwg Rev update	KJ/JLM	
D	08.01.28	0.182 dimension removed	KJEC/DD	[Signature]

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng/1. Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

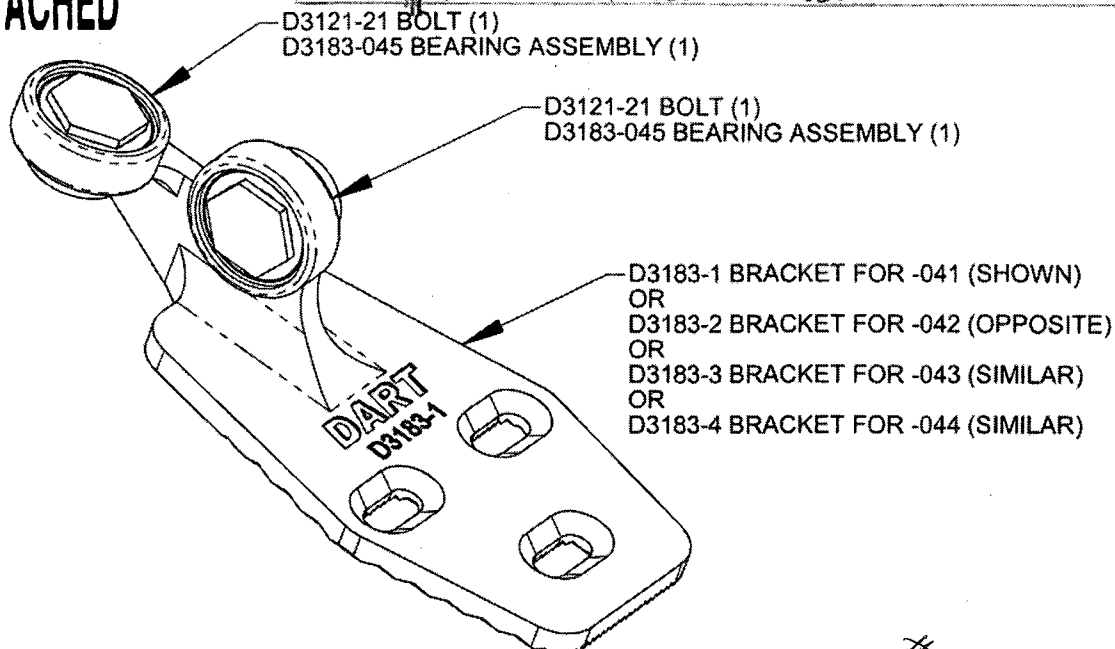
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries



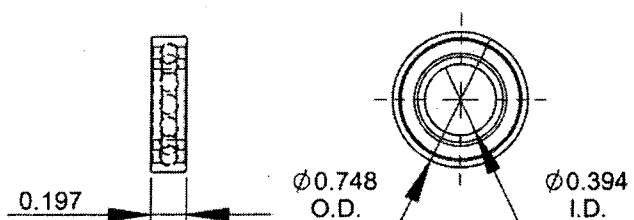
DESIGN #	DRAWN BY CP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. <b>D3183</b>	REV. C SHEET 1 OF 4
DATE <b>04.02.17</b>		TITLE <b>BRACKET ASSEMBLY</b>	SCALE 1:1
A	03.01.24	NEW ISSUE	
B	03.06.17	REMOVE BEARING; 1.012 WS 0.882	
C	04.02.17	ADD -045/-9; 0.182 WAS 0.431	
CI	04.11.09	0.830 WAS 0.850	

**RELEASED**  
04.03.01  
**DEO ATTACHED**



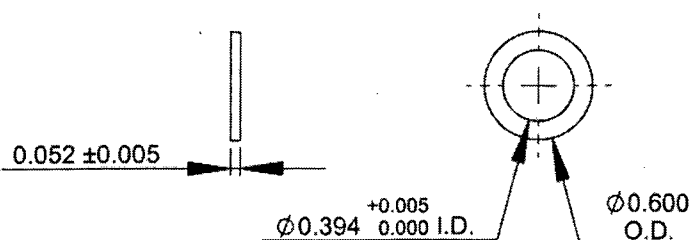
**D3183-041 BRACKET ASSEMBLY (SHOWN)**  
**D3183-042 BRACKET ASSEMBLY (OPPOSITE)**  
**D3183-043 BRACKET ASSEMBLY (SIMILAR)**  
**D3183-044 BRACKET ASSEMBLY (SIMILAR)**

# 61337



**D3183-5 BEARING:**  
**SPECIFICATION CONTROL DRAWING**

- 1) SINGLE ROW, DEEP GROOVE, CONRAD TYPE, SHIELDED
- 2) POSSIBLE SUPPLIER: NSK P/N 6800ZZ
- 3) ALL DIMENSIONS ARE IN INCHES



**D3183-7 WASHER**

- 1) MATERIAL: AISI 303 ROUND BAR (M303R) ANNEALED
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

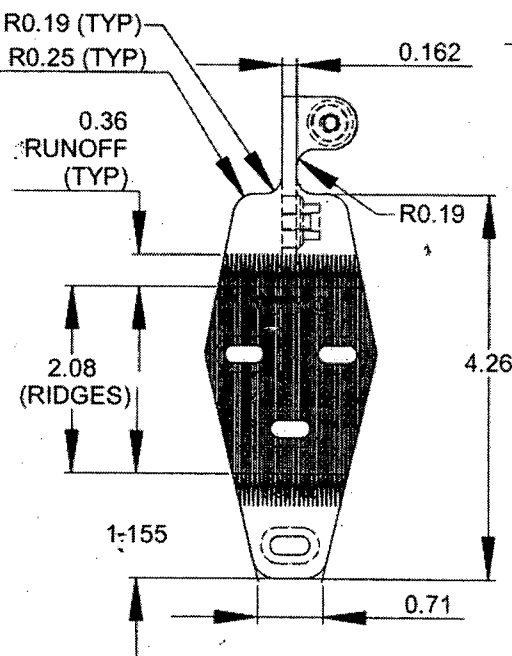
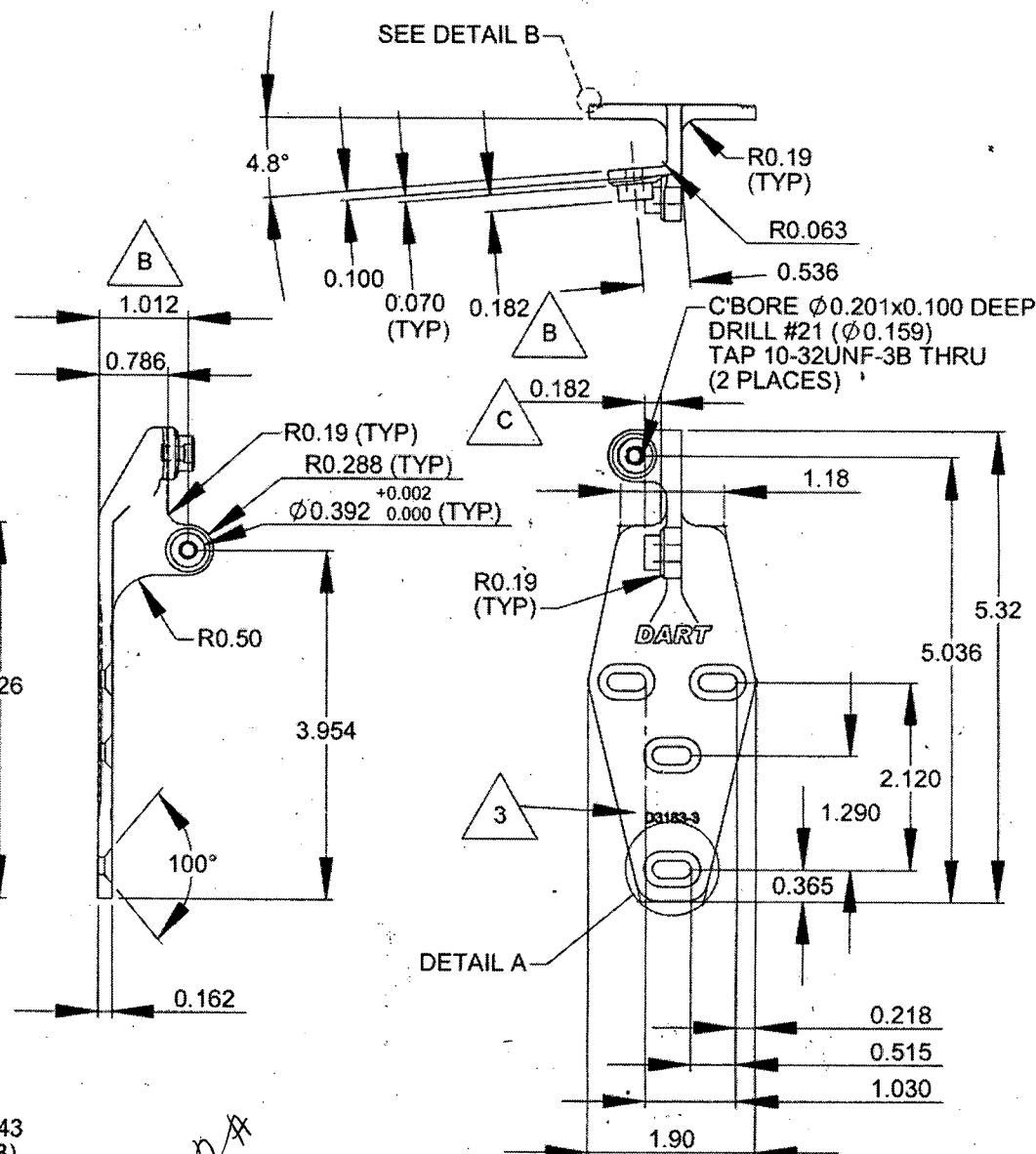
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**DART**



DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	HAWKESBURY, ONTARIO, CANADA
DATE 04.02.17	DRAWING NO. D3183	REV. C
TITLE BRACKET ASSEMBLY	SCALE 1:2	SHEET 3 OF 4



D3183-3 BRACKET SHOWN  
(REPLACES BELL P/N 412-030-304-105)  
D3183-4 BRACKET OPPOSITE  
(REPLACES BELL P/N 412-030-304-106)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643  
(REF DART SPEC. M17-4-B)  
MIN ULTIMATE STRENGTH = 150 ksi  
MIN YIELD STRENGTH = 100 ksi
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 3) ENGRAVE DART P/N & LOGO AS SHOWN
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

*Handwritten signature/initials*

**DEO ATTACHED**  
**RELEASED**  
04-03-01

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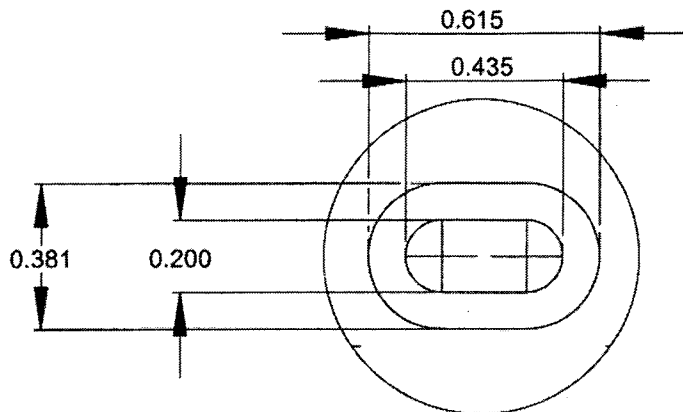
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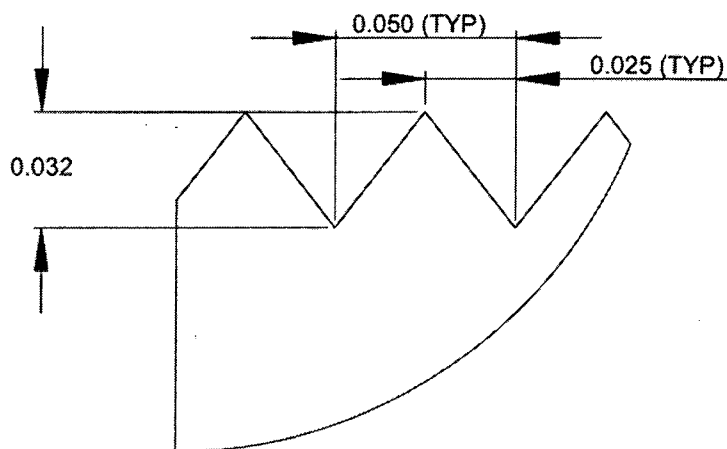
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CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3183	REV. C SHEET 4 OF 4
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1



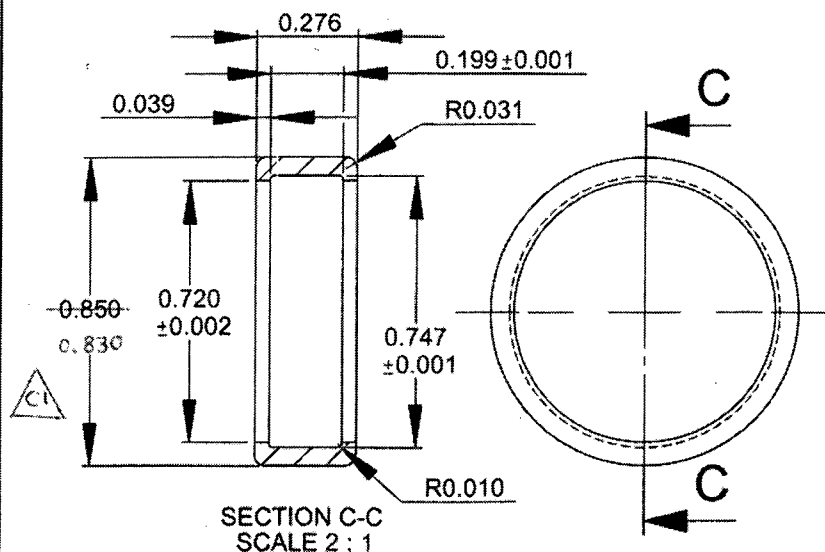
RELEASED  
04.03.01 *[Signature]*

DEO ATTACHED

DETAIL B (20 : 1)



#61337



#### D3183-9 CAP

- 1) MATERIAL: DELRIN ROD, Ø1.00  
(REF DART SPEC. M-DELRIN-R1.00)
- 2) TOLERANCES ARE PER DART QSI 018  
UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

#### D3183-045 BEARING ASSEMBLY

- 1) ASSEMBLE D3183-5 BEARING AND  
D3183-9 CAP

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DRAWING NO. D3183	TITLE BRACKET ASSEMBLY	REV.C1	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D3183-C1-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>q2</i>	CHECKED <i>h</i>	MFG. APPR. <i>h</i>	APPROVED <i>MP</i>		DE APPR. <i>h</i>		
DATE 10.05.14	DATE 10.06.30	DATE 10.06.30	DATE 10/06/30		DATE 10/06/30		

D3183-5 BEARING

ADD POSSIBLE SUPPLIER: KML P/N 6800-ZZ

BASIC LOAD RATING REQUIREMENT: Cr = 1720 N (386 lb) MIN [DYNAMIC]  
Cor = 840 N (188 lb) MIN [STATIC]

REF PAR 10-012

*LEGA #*

**RELEASED**  
2010-07-22  
*MP*

W/O:		WORK ORDER CHANGES					
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